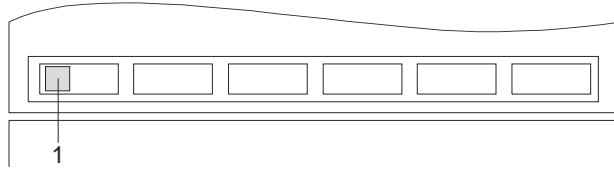




## 11 Operation and Service

### 11.1 MC\_40A operating displays (without fieldbus)

The operational status of MOVIDRIVE<sup>®</sup> compact MC\_40A is displayed on LED V1.



05428AXX

Figure 205: MOVIDRIVE<sup>®</sup> compact MC\_40A operating display

1. Operation LED V1 (three colors: green/red/yellow)

#### Operation LED V1

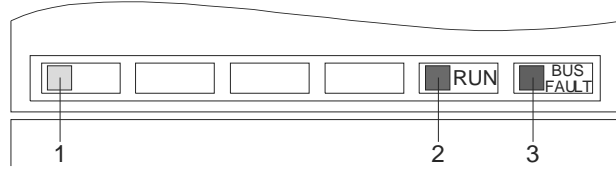
The operational states of MOVIDRIVE<sup>®</sup> compact MC\_40A are displayed using the three-color LED V1 (green/red/yellow).

Color		Operational status	Description
-	OFF	No voltage	No supply voltage and no 24 V <sub>DC</sub> backup voltage.
Yellow	Steady light	Controller inhibit or no enable	Unit ready but controller inhibit active (DIØ = '0') or no enable.
Green	Steady light	Enable	Motor is energized.
Red	Steady light	System error leading to interlock	Error leads to unit being switched off.
Yellow	Flashing	Unit not ready	Factory setting in progress or 24 V <sub>DC</sub> backup mode without supply voltage.
Green	Flashing	Flying start in progress	Operating mode VFC & FLYING START is set and inverter connected to a rotating motor.
Green/red	Flashing 0.5 s green / 0.5 s red	Limit switch reached	Limit switch reached in "enable" operating status.
Yellow/red	Flashing 0.5 s yellow / 0.5 s red	Limit switch reached	Limit switch reached in 'controller inhibit' operating status.
Green/red	Flashing Green - green - red - red	System error leading to display or wait status	Fault in 'enable' operating status which is only displayed and does not lead to a switch-off.
Yellow/red	Flashing Yellow - yellow - red - red	System error leading to display or wait status	Fault in 'controller inhibit' operating status which is only displayed and does not lead to a switch-off.
Green/yellow	0.75 s green / 0.75 s yellow	Timeout active	Enable ineffective, inverter is waiting for a valid message.



11.2 MC\_41A (PROFIBUS-DP) operating displays

The following LEDs are on the MOVIDRIVE® compact MC\_41A to display its operating status.



02902AXX

Figure 206: MOVIDRIVE® compact MC\_41A operating displays

1. Operation LED V1 (three colors: green/red/yellow)
2. PROFIBUS-DP LED 'RUN' (green)
3. PROFIBUS-DP LED 'BUS-FAULT' (red)

Operation LED V1

The operational states of MOVIDRIVE® compact MC\_41A are displayed using the three-color LED V1 (green/red/yellow).

Color		Operational status	Description
-	OFF	No voltage	No supply voltage and no 24 V <sub>DC</sub> backup voltage.
Yellow	Steady light	Controller inhibit or no enable	Unit ready but controller inhibit active (DIØØ = '0') or no enable.
Green	Steady light	Enable	Motor is energized.
Red	Steady light	System error leading to interlock	Error leads to unit being switched off.
Yellow	Flashing	Unit not ready	Factory setting in progress or 24 V <sub>DC</sub> backup mode without supply voltage.
Green	Flashing	Flying start in progress	Operating mode VFC & FLYING START is set and inverter connected to a rotating motor.
Green/red	Flashing 0.5 s green / 0.5 s red	Limit switch reached	Limit switch reached in "enable" operating status.
Yellow/red	Flashing 0.5 s yellow / 0.5 s red	Limit switch reached	Limit switch reached in 'controller inhibit' operating status.
Green/red	Flashing Green - green - red - red	System error leading to display or wait status	Fault in 'enable' operating status which is only displayed and does not lead to a switch-off.
Yellow/red	Flashing Yellow - yellow - red - red	System error leading to display or wait status	Fault in 'controller inhibit' operating status which is only displayed and does not lead to a switch-off.
Green/yellow	0.75 s green / 0.75 s yellow	Timeout active	Enable ineffective, inverter is waiting for a valid message.

PROFIBUS-DP LEDs

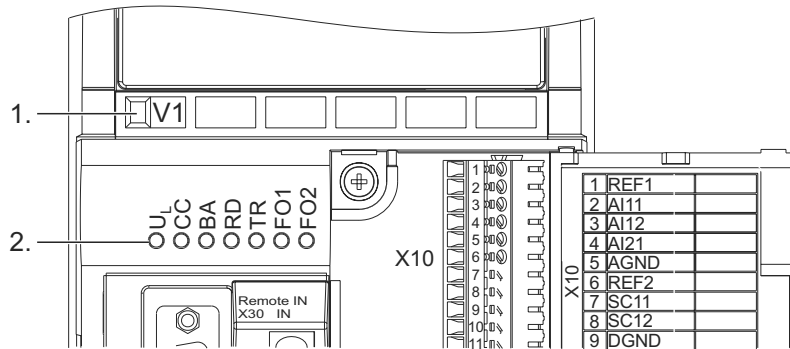
The 'RUN' LED (green) indicates that the bus electronics are operating correctly. The 'BUS FAULT' LED (red) indicates a PROFIBUS-DP fault.

RUN	BUS FAULT	Meaning
ON	ON	Connection to the DP master has failed, check the bus connection. Unit does not detect a baud rate, check the setting in the DP master. Bus interruption or DP master not functioning.
ON	OFF	Unit is currently exchanging data with the DP master (data exchange).
ON	FLASHING	Unit has detected the baud rate, however it is not being addressed by the DP master. Make sure the address set on the unit (P092) matches the address set in the project planning software of the DP master. Unit was not configured in DP master or configured incorrectly. Check the configuration, use the SEW_6002.GSD GSD file.
OFF	-	Hardware defect in the bus electronics. Switch the unit off and on again. Contact SEW Service for advice if this reoccurs.
FLASHING	-	PROFIBUS address is set higher than 125. Set address ≤ 125.



### 11.3 MCH42A operating displays (INTERBUS FO)

The following LEDs are on the MOVIDRIVE<sup>®</sup> compact MCH42A to display its operating status.



05225AXX

Figure 207: MOVIDRIVE<sup>®</sup> compact MCH42A operating displays

1. Operation LED V1 (three colors: green/red/yellow)
2. INTERBUS FO LEDs

#### Operation LED V1

The operational states of MOVIDRIVE<sup>®</sup> compact MCH42A are displayed using the three-color LED V1 (green/red/yellow).

Color		Operational status	Description
-	OFF	No voltage	No supply voltage and no 24 V <sub>DC</sub> backup voltage.
Yellow	Steady light	Controller inhibit or no enable	Unit ready but controller inhibit active (DIØ = '0') or no enable.
Green	Steady light	Enable	Motor is energized.
Red	Steady light	System error leading to interlock	Error leads to unit being switched off.
Yellow	Flashing	Unit not ready	Factory setting in progress or 24 V <sub>DC</sub> backup mode without supply voltage.
Green	Flashing	Flying start in progress	Operating mode VFC & FLYING START is set and inverter connected to a rotating motor.
Green/red	Flashing 0.5 s green / 0.5 s red	Limit switch reached	Limit switch reached in "enable" operating status.
Yellow/red	Flashing 0.5 s yellow / 0.5 s red	Limit switch reached	Limit switch reached in 'controller inhibit' operating status.
Green/red	Flashing Green - green - red - red	System error leading to display or wait status	Fault in 'enable' operating status which is only displayed and does not lead to a switch-off.
Yellow/red	Flashing Yellow - yellow - red - red	System error leading to display or wait status	Fault in 'controller inhibit' operating status which is only displayed and does not lead to a switch-off.
Green/yellow	0.75 s green / 0.75 s yellow	Timeout active	Enable ineffective, inverter is waiting for a valid message.

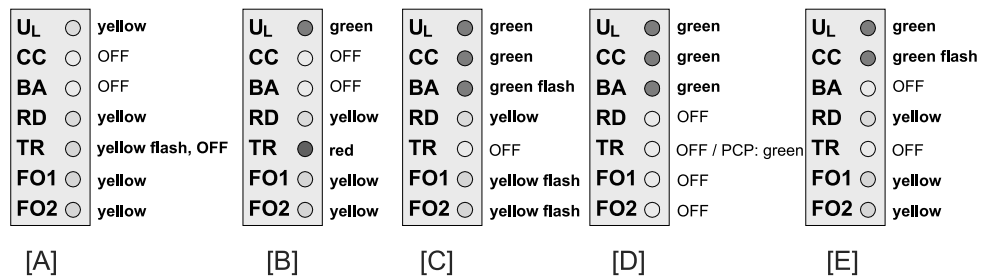


**INTERBUS FO LEDs**

The INTERBUS FO LEDs display the current status of the fieldbus interface and the INTERBUS system:

U <sub>L</sub>	Logic Voltage (green = OK)
CC	Cable Check (green = OK)
BA	Bus Active (green = OK)
RD	Remote Bus Disabled (red = OFF)
TR	Transmit (green = PCP active)
FO1	Fiber Optic 1 (yellow = not OK)
FO2	Fiber Optic 2 (yellow = not OK)

The following figure shows frequently occurring INTERBUS FO LED patterns. The meanings are described in detail in the tables below.



05226AEN

Figure 208: Frequently occurring LED patterns

- [A] Inverter power-on (INTERBUS not yet active)
- [B] Incorrect DIP switch setting (INTERBUS not yet active)
- [C] Initialization phase of the INTERBUS system
- [D] Correct INTERBUS operation
- [E] Incorrectly set baud rate

**LED U<sub>L</sub> 'U Logic' (green)**

Status	Meaning	Fault rectification
On	Supply voltage applied to bus ECU	-
Off	No supply voltage for bus ECU	Check that the terminal unit is correctly seated and the 24 V <sub>DC</sub> voltage supply for the inverter is present.

**LED CC 'Cable Check' (green)**

Status	Meaning	Fault rectification
On	Incoming remote bus connection OK	-
Off	Incoming remote bus connection not OK	Check the incoming remote bus fiber optic cable and LED FO1.

**LED BA 'Bus Active' (green)**

Status	Meaning	Fault rectification
On	Data transfer active on INTERBUS	-
Off	No data transfer; INTERBUS stopped	Check the incoming remote bus cable. Use the diagnostic display of the INTERBUS interface module (master) for further fault localization.



LED RD 'Remote Bus Disable' (yellow)

Status	Meaning	Fault rectification
On	Outgoing remote bus switched off	-
Off	Outgoing remote bus not switched off	-

LED FO1 'Fiber Optic 1' (yellow)

Status	Meaning	Fault rectification
On	Monitoring of the incoming fiber optic cable section. If the previous station <ul style="list-style-type: none"> <li>• has an optical section diagnostic function, then the power is below the system reserve level for optical transmission</li> <li>• does not have an optical section diagnostic function, then the optical transmission power cannot be controlled</li> </ul>	Check the incoming FO cable for cable quality, correct plug mounting, bending radii, etc. Use the optical diagnostic function of CMD Tool or an FO measuring instrument to localize the fault further.
Off	Incoming fiber optic section OK	-

LED FO2 'Fiber Optic 2' (yellow)

Status	Meaning	Fault rectification
On	Monitoring of the outgoing fiber optic cable section. If the next station <ul style="list-style-type: none"> <li>• has an optical section diagnostic function, then the power is below the system reserve level for optical transmission</li> <li>• does not have an optical section diagnostic function, then the optical transmission power cannot be controlled</li> </ul>	Check the outgoing FO cable for cable quality, correct plug mounting, bending radii, etc. Use the optical diagnostic function of CMD Tool or an FO measuring instrument to localize the fault further.
Off	Outgoing fiber optic section OK	-

LED TR 'Transmit' (green)

Status	Meaning	Fault rectification
The color of the LED TR corresponds to the INTERBUS standard.		
Off	No PCP communication	-
Green	PCP communication active or INTERBUS startup (parameter access via INTERBUS PCP channel)	-

LED TR 'Transmit' (yellow or red)

Status	Meaning	Fault rectification
When the LED TR is yellow or red, this indicates states within the system which do not occur as a rule during INTERBUS operation.		
Off or green	Normal mode (see table for TR = green)	-
Yellow Flashing	Inverter in initialization phase	-
Red Steady	Incorrect DIP switch configuration selected, no INTERBUS operation possible.	Check the settings of DIP switch S1. Correct the DIP switch settings if necessary and switch the unit on again.
Red flashing	Incorrect DIP switch configuration or INTERBUS interface defective, no INTERBUS operation possible.	Check the setting of DIP switches S1 to S6. Contact SEW Electronics Service if the setting is correct.



### 11.4 DBG11B keypad

#### Basic displays

CONTROL.INHIBIT CURRENT: 0 A	Display when X11:1 (DIØØ '/CONTROL.INHIBIT') = '0'.
NO ENABLE CURRENT: 0 A	Display when X11:1 (DIØØ '/CONTROL.INHIBIT') = '1' and inverter is not enabled ('ENABLE/RAPID STOP' = '0').
SPEED 942 rpm CURRENT: 2.51 A	Display when inverter enabled.
NOTE XX XXXXXXXXXXXXXXXXXXXXXX	Information message
FAULT XX XXXXXXXXXXXXXXXXXXXXXX	Fault indication

#### Copy function of the DBG11B

The DBG11B keypad can be used for copying parameter sets from one MOVIDRIVE® unit to other MOVIDRIVE® units. To do this, copy the parameter set onto the keypad using P807 (MD\_ → DBG). Connect the keypad to another MOVIDRIVE® unit and copy the parameter set onto the MOVIDRIVE® using P806 (DBG → MD\_). The keypad can be disconnected and plugged in during operation.



Not all parameters are copied with the DBG11A keypad. Use the new DBG11B keypad to ensure that all parameters are copied.

#### No connection between inverter and DBG11B

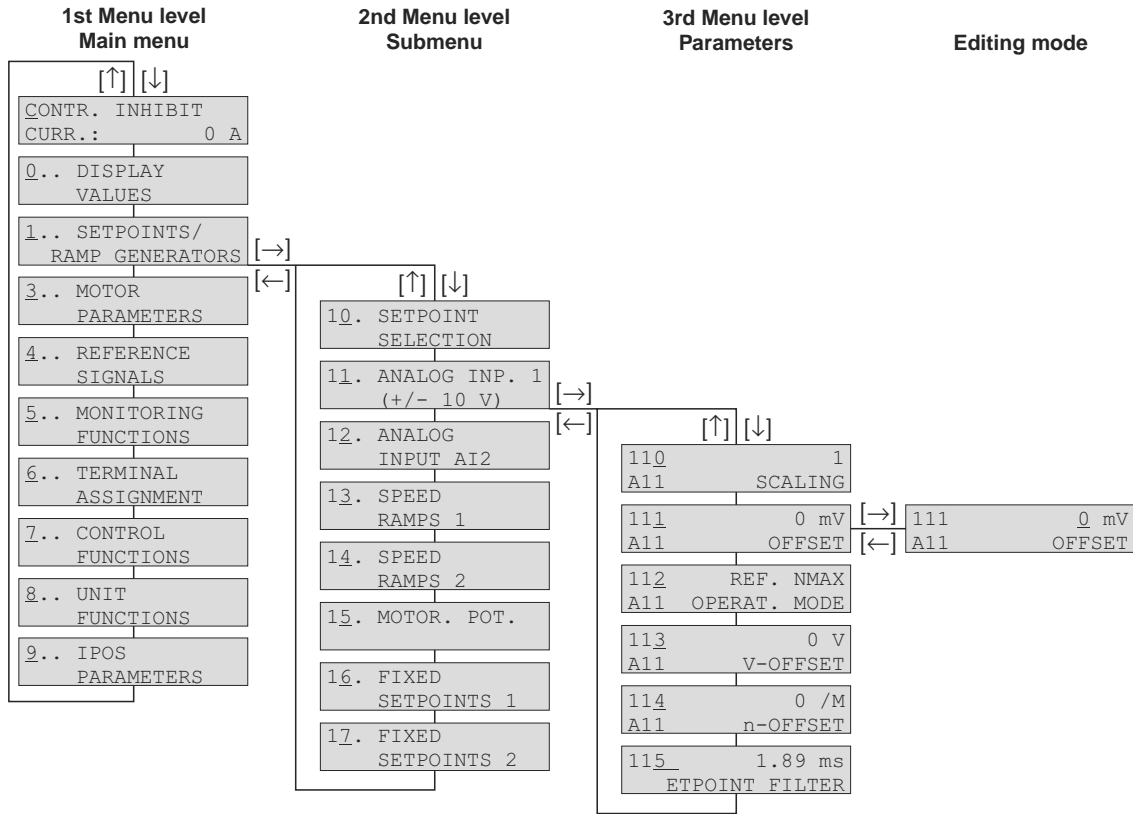
One of the following error messages may appear if no communication can be established with the inverter after the supply system or the 24 V<sub>DC</sub> power supply is switched on and the keypad is connected.

COMMUNIC. ERROR NO SERIAL LINK	Maybe error in MOVIDRIVE® unit
ERROR WHILE COPY FLASH ERR. XX	Error in DBG11B keypad
FATAL ERROR! CODE CRC WRONG	

Try to establish the connection by disconnecting the keypad and reconnecting it. Return the unit to SEW for repair or replacement if you cannot establish the connection.

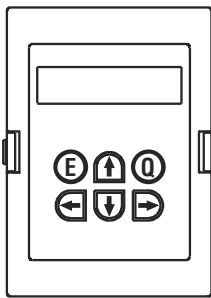


Selected via menu



02407AEN

Figure 209: Menu structure



01406AXX

← or → key

↑ or ↓ key

Q key

E key

Change menu level, in 3rd menu level (parameter) entry to (→) or exit from (←) edit mode. The parameter can only be changed in edit mode. Startup is commenced if the ← and → keys are pressed at the same time (→ Sec. 'Startup').

Select menu command, increase or decrease value in edit mode. The new value comes into effect in edit mode when the ↑ or ↓ key is released.

Back to main display; in startup mode, cancel startup.

Startup: Cancel startup

Normal operation: Signature display; the signature can only be entered or edited with MOVITOOLS/SHELL and is used for identifying the parameter set or the unit.

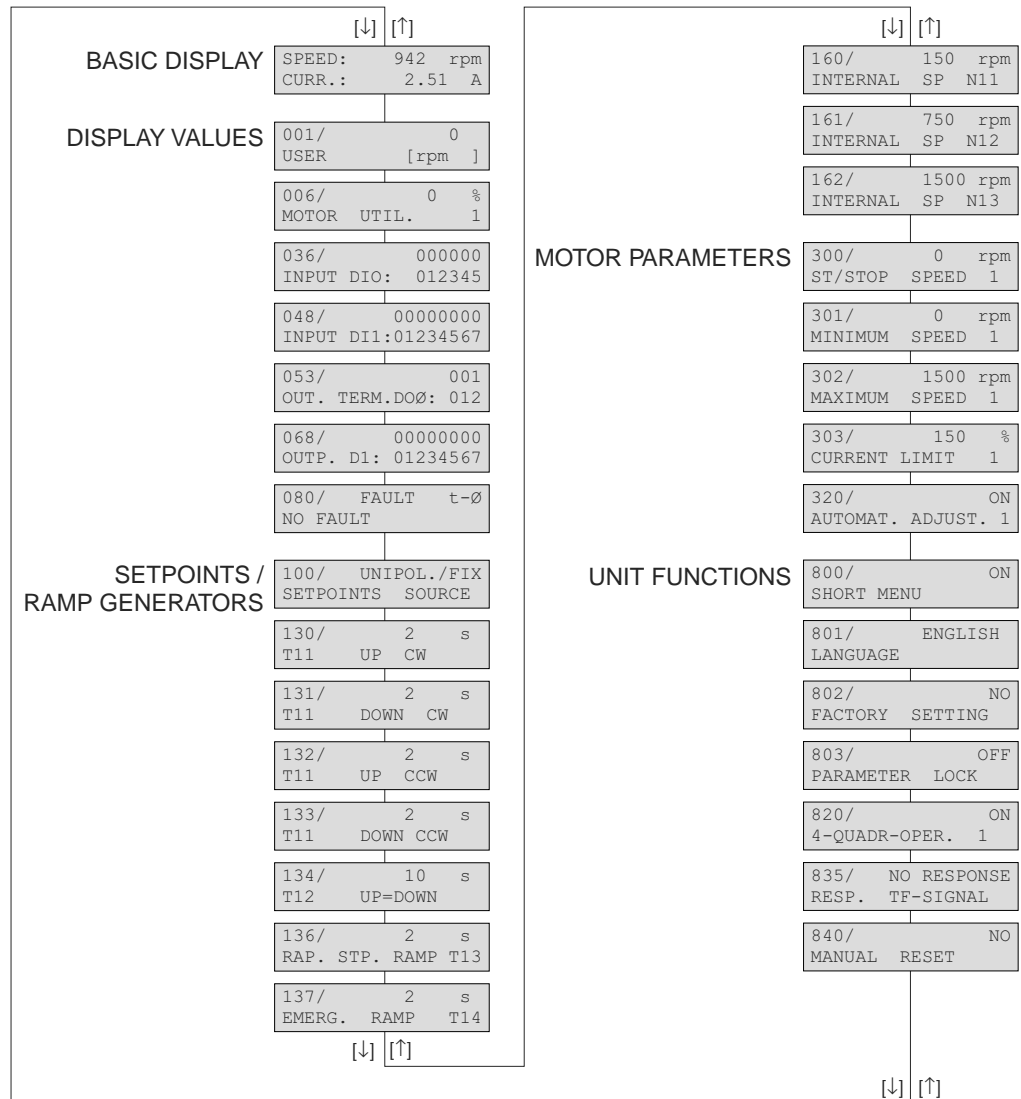
Manual mode: Exit manual mode

Malfunction: Call up reset parameter P840



**Quick menu of the DBG11B**

The DBG11B keypad has a detailed parameter menu and a clearly structured quick menu with the most frequently used parameters. It is possible to switch between both menus using P800 ('Quick menu'). This can be done in any operating status. The default setting is for the quick menu to be active. The quick menu is shown on the display by a '/' after the parameter number. The parameters in the quick menu are identified by a '/' in the parameter list.



02408AEN

Figure 210: DBG11B quick menu

**IPOS<sup>plus</sup>**

MOVITOOLS is required for programming IPOS<sup>plus</sup>. The DBG11B keypad only makes it possible to edit and modify IPOS<sup>plus</sup> parameters (P9\_\_).

The IPOS<sup>plus</sup> program is also stored in the DBG11B keypad when it is saved. It is transferred as well when the parameter set is copied to another MOVIDRIVE® unit.

Parameter P931 can be used for starting and stopping the IPOS<sup>plus</sup> program from the DBG11B keypad.


**Information messages**

Information messages on the DBG11B (approx. 2 s in duration) or in MOVITOOLS/SHELL (message which can be acknowledged):

No.	Text DBG11B/SHELL	Description
1	ILLEGAL INDEX	Index addressed via interface is not available.
2	NOT IMPLEMENTED	<ul style="list-style-type: none"> <li>Attempt to execute a non-implemented function.</li> <li>An incorrect communication service has been selected.</li> <li>Manual mode selected via impermissible interface (e.g. fieldbus).</li> </ul>
3	READ ONLY VALUE	Attempt to edit a read only value.
4	PARAM. LOCKED	Parameter lock P803 = 'ON'. Parameter cannot be altered.
5	SETUP ACTIVE	Attempt to alter parameters during active factory setting.
6	VALUE TOO LARGE	Attempt to enter a value which is too large.
7	VALUE TOO SMALL	Attempt to enter a value which is too small.
8	REQ. PCB MISSING	The option card required for the selected function is missing.
--		
--		
11	TERMINAL ONLY	Manual mode must be completed using TERMINAL (DBG11B or USS21A).
12	NO ACCESS	Access to selected parameter refused.
13	NO CTRLER. INHIBIT	Set terminal DIØØ '/Controller inhibit' = '0' for the selected function.
14	INVALID VALUE	Attempt to enter an invalid value.
--		
16	PARAM. NOT SAVED	EEPROM buffer overrun, e.g. due to cyclical write accesses. Parameter is saved in EEPROM and is not protected against loss following POWER OFF.



**11.5 Fault information**

**Fault memory** The fault memory (P080) stores the last five fault messages (faults t-0 t-4). The fault message of longest standing is deleted whenever more than five fault messages have occurred. The following information is stored when a malfunction takes place: Fault which occurred • Status of the binary inputs/outputs • Operational status of the inverter • Inverter status • Heat sink temperature • Speed • Output current • Active current • Unit utilization • DC link circuit voltage • ON hours • Enable hours • Parameter set • Motor utilization.

**Switch-off responses** There are three switch-off responses depending on the fault; the inverter is inhibited when in fault status:

*Immediate switch-off* The unit can no longer brake the drive; the output stage goes to high resistance in the event of a fault and the brake is applied immediately (DBØØ 'Brake' = '0').

*Rapid stop* The drive is braked with the stop ramp t13/t23. Once the stop speed is reached (→ P300/P310), the brake is applied (DBØØ 'Brake' = '0'). The output stage goes to high-resistance after the brake reaction time has elapsed (P732 / P735).

*Emergency stop* The drive is braked with the emergency ramp t14/t24. Once the stop speed is reached (→ P300/P310), the brake is applied (DBØØ 'Brake' = '0'). The output stage goes to high-resistance after the brake reaction time has elapsed (P732 / P735).

**Reset** A fault message can be acknowledged by:

- Switching the supply system off and on again.  
Recommendation: Observe a minimum switch-off time of 10 s for the supply system contactor K11.
- Reset via input terminals, i.e. via an appropriately assigned binary input.
- Manual reset in SHELL (P840 = 'YES' or [Parameter] / [Manual reset]).
- Manual reset using the DBG11B (pressing the <E> key in the event of a fault gives direct access to parameter P840).
- Auto reset performs up to five unit resets with an adjustable restart time. Not to be used with drives where an automatic restart represents a risk of injury to people or damage to equipment.



**Timeout active** If the inverter is controlled via a communications interface (fieldbus, RS-485 or SBus) and the power was switched off and back on again or a fault reset was performed, then the enable remains ineffective until the inverter once again receives valid data via the interface which is monitored with a timeout.



### 11.6 List of faults

A dot in the 'P' column means that the response is programmable (P83\_ Fault response). The factory set fault response is listed in the 'Response' column.

Fault code	Name	Response	P	Possible cause	Action
00	No fault	-			
01	Over-current	Immediate switch-off		<ul style="list-style-type: none"> <li>Short circuit on output</li> <li>Motor too large</li> <li>Defective output stage</li> </ul>	<ul style="list-style-type: none"> <li>Rectify the short circuit</li> <li>Connect a smaller motor</li> <li>Contact SEW Service for advice if the output stage is defective</li> </ul>
03	Ground fault	Immediate switch-off		Ground fault <ul style="list-style-type: none"> <li>in the connecting harness</li> <li>in the inverter</li> <li>in the motor</li> </ul>	<ul style="list-style-type: none"> <li>Eliminate ground fault</li> <li>Contact SEW Service for advice</li> </ul>
04	Brake chopper	Immediate switch-off		<ul style="list-style-type: none"> <li>Regenerative power excessive</li> <li>Braking resistor circuit interrupted</li> <li>Short circuit in braking resistor circuit</li> <li>Excessively high braking resistance</li> <li>Brake chopper defective</li> <li>Possibly also ground fault</li> </ul>	<ul style="list-style-type: none"> <li>Extend deceleration ramps</li> <li>Check feeder to braking resistor</li> <li>Check technical data of braking resistor</li> <li>Fit a new MOVDRIVE® if the brake chopper is defective</li> <li>Check for ground fault</li> </ul>
07	DC link over-voltage	Immediate switch-off		<ul style="list-style-type: none"> <li>DC link voltage too high</li> <li>Possibly also ground fault</li> </ul>	<ul style="list-style-type: none"> <li>Extend deceleration ramps</li> <li>Check connecting harness for braking resistor</li> <li>Check technical data of braking resistor</li> <li>Check for ground fault</li> </ul>
08	n-monitoring	Immediate switch-off		<ul style="list-style-type: none"> <li>Speed controller or current controller (in VFC operating mode without encoder) operating at setting limit due to mechanical overload or phase fault in the power system or motor.</li> <li>Encoder not connected correctly or incorrect direction of rotation.</li> <li><math>n_{max}</math> is exceeded during torque control.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce load</li> <li>Increase deceleration time setting (P501 or P503).</li> <li>Check encoder connection, possibly swap over A/A and B/B in pairs</li> <li>Check encoder voltage supply</li> <li>Check current limitation</li> <li>Extend ramps if appropriate</li> <li>Check motor feeder and motor</li> <li>Check supply system phases</li> </ul>
09	Startup	Immediate switch-off		Inverter startup not yet performed for selected operating mode.	Perform startup for appropriate operating mode.
10	IPOS-ILLOP	Emergency stop		<ul style="list-style-type: none"> <li>Incorrect command detected during running of IPOS program.</li> <li>Incorrect conditions during command execution.</li> <li>Function not in inverter.</li> </ul>	<ul style="list-style-type: none"> <li>Check program memory content and correct if necessary.</li> <li>Load correct program into program memory.</li> <li>Check program sequence (→ IPOS manual)</li> <li>Use another function.</li> </ul>
11	Overtemperature	Emergency stop		Thermal overload of inverter.	Reduce load and/or ensure adequate cooling.
13	Control signal source	Immediate switch-off		Control signal source not defined or defined incorrectly.	Set correct control signal source (P101).
14	Encoder	Immediate switch-off		<ul style="list-style-type: none"> <li>Encoder cable or shield not connected correctly</li> <li>Short circuit/open circuit in encoder cable</li> <li>Encoder defective</li> </ul>	Check encoder cable and shield for correct connection, short circuit and open circuit.
15	24 V internal	Immediate switch-off		No internal 24 V supply voltage.	Check the mains connection. Contact SEW Service for advice if this reoccurs.
17-24	System fault	Immediate switch-off		Inverter electronics disrupted. Possibly due to effect of EMC.	Check ground connections and shields; improve them if necessary. Contact SEW Service for advice if this reoccurs.
25	EEPROM	Rapid stop		Fault when accessing EEPROM	Call up default setting, perform reset and set parameters again. Contact SEW Service for advice if this reoccurs.
26	External terminal	Emergency stop		<ul style="list-style-type: none"> <li>Read in external fault signal via programmable input.</li> </ul>	Eliminate specific cause of fault; reprogram terminal if appropriate.



Fault code	Name	Response	P	Possible cause	Action
27	Limit switches missing	Emergency stop		<ul style="list-style-type: none"> <li>Open circuit/both limit switches missing</li> <li>Limit switches are swapped over in relation to direction of rotation of motor</li> </ul>	<ul style="list-style-type: none"> <li>Check wiring of limit switches.</li> <li>Swap over limit switch connections.</li> <li>Reprogram terminals</li> </ul>
28	Fieldbus timeout	Rapid stop		No master-slave communication took place within the configured response monitoring period.	<ul style="list-style-type: none"> <li>Check master communication routine</li> <li>Extend fieldbus timeout time (P819) or switch off monitoring</li> </ul>
29	Limit switch reached	Emergency stop		Limit switch was reached in IPOS operating mode.	<ul style="list-style-type: none"> <li>Check travel range.</li> <li>Correct user program.</li> </ul>
30	Emergency stop timeout	Immediate switch-off		<ul style="list-style-type: none"> <li>Drive overloaded</li> <li>Emergency stop ramp too short.</li> </ul>	<ul style="list-style-type: none"> <li>Check project planning</li> <li>Extend emergency stop ramp</li> </ul>
31	TF sensor	No response		<ul style="list-style-type: none"> <li>Motor too hot, TF sensor has tripped</li> <li>TF sensor of motor not connected or not connected properly</li> <li>MOVIDRIVE® connection and TF connection on motor interrupted</li> </ul>	<ul style="list-style-type: none"> <li>Let motor cool down and reset fault</li> <li>Check connections/link between MOVIDRIVE® and TF.</li> <li>Set P835 to 'NO RESPONSE'.</li> </ul>
32	IPOS index overrun	Emergency stop		Basic programming rules violated causing stack overflow in system.	Check IPOS user program and correct if necessary (→ IPOS manual).
33	Setpoint source	Immediate switch-off		Setpoint source not defined or defined incorrectly	Set correct setpoint source (P100).
35	Operating mode	Immediate switch-off		Operating mode not defined or defined incorrectly	Use P700 or P701 to set correct operating mode
37	System watchdog	Immediate switch-off		Fault in system software procedure	Contact SEW Service for advice.
38	System software	Immediate switch-off		System fault	Contact SEW Service for advice.
39	Reference travel	Immediate switch-off		<ul style="list-style-type: none"> <li>Reference cam missing or does not switch</li> <li>Limit switches not connected correctly</li> <li>Reference travel type changed during reference travel</li> </ul>	<ul style="list-style-type: none"> <li>Check reference cam</li> <li>Check connection of limit switches</li> <li>Check reference travel type setting and the parameters required for it</li> </ul>
42	Lag error	Immediate switch-off		<ul style="list-style-type: none"> <li>Incremental encoder connected incorrectly</li> <li>Accelerating ramps too short</li> <li>P-component of positioning controller too small</li> <li>Speed controller parameters set incorrectly</li> <li>Value of lag error tolerance too small</li> </ul>	<ul style="list-style-type: none"> <li>Check rotary encoder connection</li> <li>Extend ramps</li> <li>Set P-component to higher value</li> <li>Set speed controller parameters again</li> <li>Increase lag error tolerance</li> <li>Check encoder, motor and mains phase wiring</li> <li>Check mechanical components can move freely, possibly blocked up</li> </ul>
43	RS-485 timeout	Rapid stop		Communication between inverter and PC interrupted	Check connection between inverter and PC. Contact SEW Service for advice if necessary.
44	Unit utilization	Immediate switch-off		Unit utilization (IxT value) exceeds 125 %	<ul style="list-style-type: none"> <li>Reduce power output</li> <li>Extend ramps</li> <li>Use a larger inverter if the specified points are not possible.</li> </ul>
45	Initialization	Immediate switch-off		<ul style="list-style-type: none"> <li>No parameters set for EEPROM in power section or parameters set incorrectly.</li> <li>Option pcb not in contact with backplane bus.</li> </ul>	<ul style="list-style-type: none"> <li>Restore factory settings. Call SEW Service for advice if the fault still cannot be reset.</li> <li>Insert the option pcb correctly.</li> </ul>
47	System bus timeout	Rapid stop		Fault during communication via system bus.	Check system bus connection.
77	IPOS control word	No response		<b>Only in IPOS operating mode:</b> <ul style="list-style-type: none"> <li>Attempt was made to set an invalid automatic mode (via external control).</li> <li>P916 = BUSRAMP set.</li> </ul>	<ul style="list-style-type: none"> <li>Check serial connection to external control.</li> <li>Check write values of external control.</li> <li>Set P916 correctly.</li> </ul>
78	IPOS SW limit switches	No response		<b>Only in IPOS operating mode:</b> Programmed target position is outside travel range delimited by software limit switches.	<ul style="list-style-type: none"> <li>Check user program</li> <li>Check position of software limit switches</li> </ul>
81	Start condition	Immediate switch-off		<b>Only in 'VFC hoist' operating mode:</b> Current during premagnetization phase could not be injected into motor at a high enough level: <ul style="list-style-type: none"> <li>Motor rated power too small in relation to inverter rated power.</li> <li>Motor cable cross section too small.</li> </ul>	<ul style="list-style-type: none"> <li>Check startup data and repeat startup procedure if necessary.</li> <li>Check connection between inverter and motor.</li> <li>Check cross section of motor cable and increase if necessary.</li> </ul>



Fault code	Name	Response	P	Possible cause	Action
82	Output open	Immediate switch-off		<b>Only in 'VFC hoist' operating mode:</b> <ul style="list-style-type: none"> <li>Two or all output phases interrupted.</li> <li>Motor rated power too small in relation to inverter rated power.</li> </ul>	<ul style="list-style-type: none"> <li>Check connection between inverter and motor.</li> <li>Check startup data and repeat startup procedure if necessary.</li> </ul>
84	Motor protection	Emergency stop		<ul style="list-style-type: none"> <li>Motor utilization too high.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce load.</li> <li>Extend ramps.</li> <li>Observe longer pause times.</li> </ul>
85	Copy	Immediate switch-off		Fault when copying parameters.	Check connection between inverter and PC.
87	Technology function	Immediate switch-off		Attempt made to load the parameter set for a technology version unit with the technology function activated into a standard version unit.	Activate the factory settings (P802 = YES) and perform a reset.
88	Flying start	Immediate switch-off		<b>Only in 'VFC n-CTRL' operating mode:</b> Actual speed > 5000 rpm when inverter enabled.	Enable only at actual speed $\leq$ 5000 rpm.
94	EEPROM checksum	Immediate switch-off		Inverter electronics disrupted, possibly due to effect of EMC or a defect.	Send the unit in for repair.
99	IPOS ramp calculation fault	Immediate switch-off		<b>Only in IPOS operating mode:</b> Attempt made to alter ramp times and traveling velocities when the inverter is enabled, with a sine or squared positioning ramp.	Rewrite the IPOS program so that ramp times and traveling velocities can only be altered when the inverter is inhibited.



**11.7 SEW electronics service**

**Send in for repair** Please contact the SEW electronics service if a fault cannot be rectified (→ 'Customer and spare parts service').

When contacting the SEW electronics service, please always quote the digits of your service code to enable our service personnel to assist you more effectively.



**Please provide the following information if you are sending the unit in for repair:**

- Serial number (→ nameplate)
- Unit designation
- Standard type or technology type
- Digits of the service code
- Brief description of the application (application, control via terminals or serial)
- Connected motor (motor type, motor voltage,  $\Delta$  or  $\Delta$  circuit)
- Nature of the fault
- Peripheral circumstances
- Your own presumption of what has happened
- Any unusual events, etc. preceding the fault

**Service label**

MOVIDRIVE® units have service labels attached to them; one for the power section and another for the control unit. These are located on the side next to the nameplate.

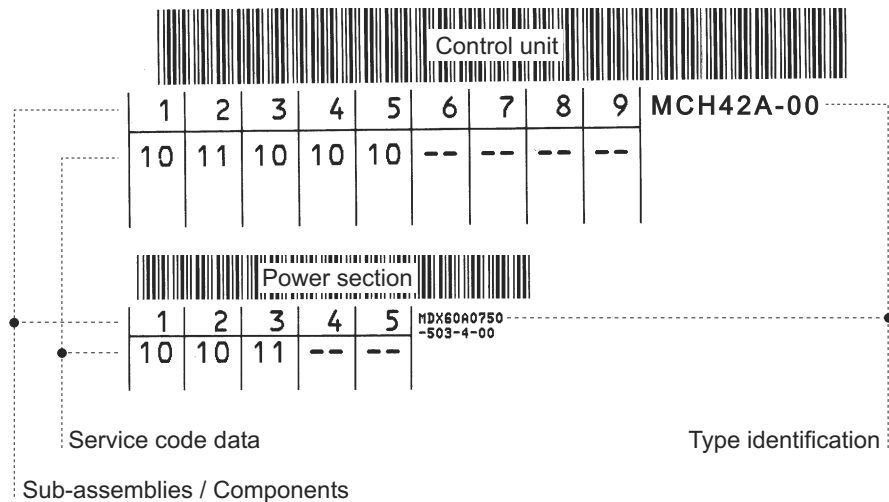


Figure 211: Service label

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